

Development of methods for detection of viruses in aquatic environments and their interactions with bacteria in biofilms

The National Institute of Biology is offering a fully funded PhD student position within the ITN INTERFACES (Ecohydrological interfaces as critical hotspots for transformations of ecosystem exchange fluxes and biogeochemical cycling). This 3-year position will commence spring 2014.

INTERFACES is a supra-disciplinary training and research network that aims to develop conceptual process understanding of the role of ecohydrological interfaces for the transport and transformation of heat, energy and water fluxes and interlinked biogeochemical cycles at micro- to landscape-scale. The Network unites world-leading research centers, universities, private and public sector partners from 7 European countries to provide an outstanding, world-class training environment for 11 PhDs and 4 Postdoctoral positions. Through INTERFACES, we will: (i) enhance capacities for multi-scale monitoring and modelling, (ii) improve conceptual understanding of interface process dynamics, (iii) understand the landscape-wide consequences of ecohydrological interface functions, and (iv) improve the functioning and their resilience of ecohydrological interfaces to environmental change.

The National Institute of Biology (NIB) is a public research institute consisting of 6 departments. The major activities are: creation of knowledge with basic research in the field of biology and fields of related natural sciences, environmental protection, and biotechnology. The main activities of the Marine Biological Station (MBS) are focused on coastal, plankton and benthic ecology, biodiversity, biogeochemical processes with microbial dynamics, impacts of pollution, and coastal dynamics and modeling. MBS is also responsible for Monitoring Program including assessment of the state of marine environment, marine biodiversity monitoring and conservation of coastal areas. The Department of Biotechnology and Systems Biology is accredited (according to ISO/IEC 17025) in the field of genetically modified organisms determination in foodstuffs and agricultural products and detection of microorganisms-plant pathogens. The research work of the Department is focused on three main topics: microorganisms, genetically modified organisms and omics studies (systems biology).

Focus of PhD position:

Within the project "Development of methods for detection of viruses in aquatic environments and their interactions with bacteria in biofilms", the fellow will combine laboratory and field experiments to study changes in microbial community composition at micro-scale level in water environments and biofilms. The changes in microbial productivity and community structure together with inorganic nutrients, dissolved organic carbon will be followed using classical methods, as well as microscopic, molecular (FISH, DGGE, qPCR) and radiolabelled methods. New protocols will be implemented for quantifying dominant bacterial group and viruses in water environments, including those that originate from anthropogenic activity. The ultimate goal of the project is to improve the interdisciplinary understanding of processes at interfaces which are commonly considered as hot spots of turnover and as relevant for the ecological state of both adjacent compartments.

Job description:

This position is one of 11 PhDs and 4 Postdoctoral positions within the INTERFACES Network, located at partners across Europe. As part of a thematic training network, you will have multiple opportunities to join in local and network-wide training activities delivered by academic, public sector and industry partners, go on visits and secondment, attend meetings of the INTERFACES Supervisory Board, the INTERFACES Assembly, Joint Field Experiment and the final international conference, in addition to outreach activities in the wider community, working alongside researchers based elsewhere within the Network. Your main responsibilities as a PhD fellow will be to:

- Manage and carry out your research project
- Participate in research training activities within the INTERFACES network
- Write your PhD thesis and publish scientific articles in peer reviewed journals
- Participate in the INTERFACES Supervisory Board, Assembly and international conference
- Disseminate your research in the scientific community, through outreach and public engagement

Eligibility:

"This position is open to candidates of all nationalities and from any country worldwide. To fulfil the EU's rules for the Marie Curie programme you should not have lived, studied or worked in the UK for more than 12 months during the last 3 years, as the EU requires that you move between country. "

As this is a PhD position, you should not have received a PhD by the 1st May 2014, and must be still within the first four years of your research career. The four years is measured in full-time equivalent (i.e. accounting for part-time work) and from the date that you received the award that enabled you to start with your doctoral studies.

You must be available to start the position by 1st May 2014.

Qualifications:

- We are seeking candidates with a MSc or very good BSc in Life Sciences, Environmental Sciences, Biology, Biotechnology or other closely related discipline.
- Additional skills: experience in molecular biology, basic knowledge and techniques in microbial ecology, abilities for group work and field work (driving license, diving license)
- Excellent English skills in speaking, listening, reading and writing are also required.

Place of employment and main place of work:

The primary supervisor will be Dr. Valentina Turk, associate professor in Microbial Ecology and Science Councilor at the National Institute of Biology. The Marine Biology Station in Piran will be the main place of work in combination with the Department of Biotechnology and Systems Biology in Ljubljana. The candidate will be co-supervised by Dr. Maja Ravnkar, associate professor and head of the Department of Biotechnology and Systems Biology (NIB) in Ljubljana and seconded for up to 6.5 months over three years: Biosistemika (Slovenia) four months, CSIC (Spain) half a month, UV (Austria) one month, and UFZ (Germany) (one month).

Application procedure:

Applications should be sent by email to Valentina.Turk@mbss.org, Jana.Gregoric@mbss.org and Ion.Gutierrez@nib.si and include as cc in your email k.shepherd.2@bham.ac.uk. Attachments must include:

- A motivation letter, explaining their motivation and relevant experience for this post
- A current CV, which includes full contact details
- Two reference letters or full contact details of the two referees
- A copy of the bachelor / master degree that allows for the enrolment on a doctorate degree

Questions regarding the project or the application process should be sent to Dr. Valentina Turk and Dr. Ion Gutierrez. Questions regarding the application process should be sent to k.shepherd.2@bham.ac.uk.

Applications will be accepted at any time until a suitable candidate has been found, with the final date of submission being 28th February 14. An assessment committee will meet each month to review applications and will contact shortlisted candidates to invite them for interview, either in person or by Skype. Candidates will be notified if they have not been selected. Candidates must be available to start by no later than 1st May 2014.

The main criterion for selection will be the existing skills, knowledge and research career potential of the applicant, match with the project, and fulfillment of the above mentioned qualifications. Female candidates and those returning to a research career are particularly encouraged to apply.

The successful candidate will receive a generous financial package plus an additional mobility allowance according to the EU's Marie Curie allowance for ESRs, which can be found in the Marie Curie Work Programme http://ec.europa.eu/research/mariecurieactions/apply-now/how-to-apply/index_en.htm'

NIB is an Equal Opportunities employer. NIB gives full regard to the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, particularly concerning the working conditions, career development and recruitment of researchers to this post.